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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/652,248	08/29/2003	Douglas Nelson	1-16150	1864

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EXAMINER

DEGHAN, QUEENIE S

ART UNIT

PAPER NUMBER

1731

DATE MAILED: 06/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/652,248

Applicant(s)

NELSON ET AL.

Examiner

Queenie Dehghan

Art Unit

1731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 10-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-9 and 12-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-9 and 13-16, drawn to a process for coating a glass substrate classified in class 65, subclass 60.52.
 - II. Claims 10-12, drawn to a coated glass article, classified in class 428, subclass 428.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions Group I and Group II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make another and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by another and materially different process such as dip coating.
3. Because these inventions are independent or distinct for the reasons given above and have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.
4. Because these inventions are independent or distinct for the reasons given above and the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.
5. During a telephone conversation with Donald Schurr on May 11, 2006 a provisional election was made with traverse to prosecute the invention of Group I,

claims 1-9 and 13-16. Affirmation of this election must be made by applicant in replying to this Office action. Claims 10-12 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Specification

7. The disclosure is objected to because of the following informalities: the disclosure references

- a. Page 2, [0004] U.S. patent No. 5,939,210, which appears to be a typo.
- b. Page 7, [0014] last line, it is believe the applicant meant to disclose 7.5-60 percent ammonia, not nitrogen.
- c. Page 8 [0015], it is believe the applicant meant to disclose 15 percent ammonia, not nitrogen.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 3, 6-8, 14, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Dick et al. (5,431,707). Regarding claims 1, 7, 14, and 16, Dick et al. disclose a process for depositing a silica coating upon a heated glass surface (col. 1 lines 50-51, 29, 61) by directing a precursor mixture of silane, oxygen, ammonia, and an inert carrier gas and reacting the mixture at the surface of the glass substrate (col. 1 lines 34-38, 49-54). Dick et al. have also disclosed that the coating deposited is a silicon base layer (col. 2 lines 2-3), which is also interpreted to be equivalent to a silica coating. Furthermore, Dick et al. disclose premixing the precursors, including the inert gas prior to directing the precursor mixture along the surface of the glass (col. 1 lines 52-55). Regarding claim 3, Dick et al. preferably use monosilane as the silane precursor (col. 2 lines 4-5). Regarding claim 6, Dick et al. disclose a forming a homogenous silicon layer and indicate essentially no nitrogen in the silica layer (col. 2 lines 2-3, 12-16). Regarding claim 8, Dick et al. disclose using nitrogen as the carrier gas (col. 1 lines 66-67).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 2, 4-5, 9, 13, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dick et al. (5,431,707), as applied to claim 1 above, in view of Soubeyrand (5,798,142). Regarding claims 2, 4 and 5, Dick et al. disclose a precursor mixture comprising silane, ammonia, oxygen and a carrier gas, but do not provide for an optional radical scavenger. Soubeyrand teaches using a radical scavenger such as propylene or ethylene in a precursor mixture (col. 2 lines 35-37, 53-56, col. 4 lines 50-51) for depositing a silica layer on a hot glass substrate (col. 2 lines 25-26). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a radical scavenger such as ethylene in the precursor mixture of Dick et al. in

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order to allow for the silane to be premixed with oxygen without undergoing premature combustion, as taught by Soubeyrand (col. 2 lines 39-41).

13. Regarding claims 9 and 13, Dick et al. disclose a precursor mixture with 1% silane, 4 % oxygen, 50% ammonia, and the balance the inert carrier gas (col. 2 line 46), but do not disclose a concentration of ethylene. Soubeyrand teaches a silane concentration of 1.0%, oxygen concentration of 5% and an ethylene to silane ratio of 6 to 1 in experiment no. 2 in Table I. With 1% silane, as disclosed by Dick et al., the ethylene concentration would be 6-9%. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the ethylene concentration of Soubeyrand in the precursor mixture of Dick et al. in order to achieve an optimum thickness of the silica layer, as taught by Soubeyrand. Although the ammonia concentration of Dick et al. is not 15%, it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the concentration of the inert ammonia gas in the precursor mixture, given the same precursor materials are used.

14. Regarding claim 15, Dick et al. do not disclose the cooling of the coated glass substrate to ambient temperature. Soubeyrand teaches cooling the coated glass to ambient temperature in a cooling section (22) following deposition (68) (col. 3 lines 43-45, col. 1 lines 35-36). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the cooling step of Soubeyrand in the silica deposition process of Dick et al. in order to provide for a cooled glass substrate for further cutting, as taught by Soubeyrand.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Queenie Dehghan whose telephone number is (571)272-8209. The examiner can normally be reached on Monday through Friday 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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